REMARKS

This is in response to the Official Action mailed January 26, 2007. Entry of the amendments to the claims and favorable consideration is respectfully requested.

In the Official Action, previously allowed claims were withdrawn from allowance, and a new reference, namely U.S. Patent No. 6,504,392 was cited and relied on for rejecting all of the claims remaining in the application, namely claims 1-4, 6, 7 and 9-24. Claims 3, 4 and 18-24 are cancelled. Independent claims 1 and 12 are amended and new claim 25 added.

Patent No. 6,504,392 to Fredeman et al. discloses a heat sink for a device under test in a forced air convective oven, wherein a fan housing is supported on the heat sink and is loaded with a springload against the heat sink and when operated will blow air onto the heat sink that is associated with cooling the device under test. The device under test is held in a holder, and the heat sink is an integral part of the holder.

Since the fan is mounted on and moves with the heat sink, which is hinged to a base of a socket that holds the device under test, the power connections for the fans must be directly on the boards that are removed and replaced (See Fig. 7 of the '392 patent). Boards have to be removed and replaced into a burn-in oven for changing devices under test and thus the fans have to be removed and replaced when removing and replacing a device under test. It also means that the fan, directly mounted on the heat sink, increases the size of the socket holding the device under test. The arrangement illustrated in the '392 patent requires an overhead holder or beam that overlies the fan and mounts a spring to push the fan onto the heat sink. This also means that there has to be a connector 84 on the burn-in boards for the fans. It is necessary to provide for additional slide in electrical connectors or contacts for the fans on the burn-in boards, because the burn-in boards must be inserted or removed from the burn-in oven.

The fans which move with the socket are always in the way and the wires leading to the fan have to be arranged so that they will not be tangled up in the movable cover for the socket. This is an awkward arrangement when compared to the structure of present claims 1, 12 and 25, in particular.

Claims 1 and 12 have been amended to define walls or fan trays spaced from a burn-in board carrying devices under test to make one or more air flow ducts. Each opening in the wall or tray has a fan that directs air flow onto a device under test on an associated burn-in board. The '392 patent was said to have ducts formed by pressure plate 56 but there is no air flow duct formed that proved air to the fan, which as claimed blows such air from a separate duct onto a device under test through an opening in the fan board. The convective air is provided in the chambers of the '392 patent to all of the components and there is no separate duct formed that provides air for the fans and which is separated from the hot boards carrying the devices under test.

Claim 25 defines a separate set of burn-in boards of conventional design that are easily loaded with integrated circuits and placed in a burn-in oven and removed when the test is done, and separate fan trays that may or may not be removable from the oven can be left in place. The fans do not have to be removed with the sockets or holders for the devices under test.

The fans of the present disclosure can be powered in each set up with permanent type connectors, without having the connectors mounted on the removable burn-in boards where the wires and connectors can get in the way when removing and adding devices for testing, as with the '392 patent.

Additionally, the fans can be of a selected size so that they can be permanently mounted on the wall or fan trays forming the air flow ducts and held in position so that there is no need for awkward springs. Loose connections also are avoided with the structures of each of claims 1, 12 and 25.

Another important aspect of these claims is that the cooling air can be fed into the duct that is formed between the fan tray, on a side of a burn-in board that does not carry the devices under test so that the cooling air can be controlled solely by the fan operation. In the teaching of Patent No. 6,504,392, the convective air is be directed through the space above and across the devices under test and the heat sinks, so that this air that the fans blow onto the heat sinks can vary in temperature across the width or height of a burn-in board. Air that would be blown onto the sockets closest to the inlet for the air would have air that was in fact cooler than

the air being blown on the sockets more remote from such an inlet or source, since the sockets are hot. The cooling air would pass over several hot sockets as it moved along the convective air board.

The Office Action stated that each board 48 formed a duct and called the fans 90 fan boards. The claims herein require the fan boards to have a plurality of openings and fans, with the fans on the opposite side of fan boards from the devices under test.

Claim 1 clearly includes a wall forming an air flow duct that is spaced from the devices under test. Fans are on a side of the wall opposite the devices under test, so the fans are spaced from the heat exchangers and direct air from a duct through opening onto the devices. Claim 12 is more specific to the duct formation, but also positions the fans spaced from the devices.

Claim 25 clearly specifies that the fan trays are spaced from the devices under test on a first side of a first burn-in board, and also spaced from the second side of a second burn-in board to form the air ducts that carry the cooling flow.

The air that flows through the ducts is not directly heated by the devices under test or the heat sinks for the sockets for the devices under test before being directed by the fans onto the device. The air in the claimed ducts remains at a reasonably uniform temperature as it is permitted to flow through the claimed ducts and then blown onto the devices under test by the fans through fan openings that are registry with the devices under test.

This arrangement of the claims enhances the control, and reduces the complexity of the mounting of a fan directly onto a heat sink which must be hinged out of the way to place the device under test in the socket on which the heat sink is placed.

It is believed the claims that depend from their parent claims are allowable therewith.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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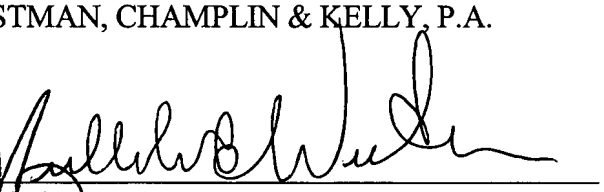

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